Autolus Therapeutics to Present Three Novel Cell Programming Approaches at the American Society of Gene & Cell Therapy (ASGCT) 25th Annual Meeting, May 16-19, 2022

May 2, 2022 at 4:31 PM EDT

Developing cell programming capabilities to improve our pipeline of precise, controlled and highly active products

LONDON, May 02, 2022 (GLOBE NEWSWIRE) -- Autolus Therapeutics plc (Nasdaq: AUTL), a clinical-stage biopharmaceutical company developing next-generation programmed T cell therapies, today announces the presentation of three novel cell programming approaches at the American Society of Gene & Cell Therapy (ASGCT) being held May 16-19, 2022.

“The data we are presenting showcases our industry leading T cell programming technologies,” said Dr. Martin Pule, Autolus’ Chief Scientific Officer. “As we seek to broaden the use of T cell therapy, we understand the CAR itself is not the sole component – instead it’s a combination of targeting, control and activity enhancements, and by improving each element we hope to ultimately improve patient outcomes in a much broader set of indications.”

Posters to be presented:

1. **Title: Enhancing CAR T Cell Therapy Using Fab Based Constitutively Heterodimeric Cytokine Receptors**
   Authors: Righi M., Srivastava S., Grothier T., Robson M., Kokalaki E., Isaac G., McKenzie C., Sillibourne J., Thomas S., Cordoba S., Pule M.
   Poster Board Number: W-222
   Session Date/Time: Wednesday May 18, 2022 5:30 PM - 6:30 PM
   Abstract number: 1096
   Summary: One of the challenges of targeting some solid tumors effectively with CAR T therapies is the harsh, immunosuppressive microenvironment of the tumor which can lead to poor persistence and a weak anti-tumor activity. Co-administration with cytokines is known to boost T cell activity and persistence, but its systemic or local administration can be toxic. We have therefore developed a versatile constitutive cytokine receptor (CCR) system which recapitulates cytokine signaling by heterodimerization of cytokine receptors, whist avoiding the potential for toxicities. These FabCCR modules signal exclusively to the CAR T cells with the potential to improve T cell therapies (TILs, TCR T cells and CAR T cells) and avoid systemic toxicity, whilst the versatility of the technology allows a broader application in cellular engineering.

2. **Title: CAR T cells engineered to express a Fas-CD40 chimera display superior persistence and tumor cytotoxicity**
   Authors: McKenzie C., El-Kholy M., Parekh F., Lamb K., Allen C., Sillibourne J., Robson M., Thomas S., Cordoba S., Pule M.
   Poster Board Number: W-231
   Session Date/Time: Wednesday May 18, 2022 5:30 PM - 6:30 PM
   Abstract number: 1105
   Summary: Engineered T cells have shown remarkable efficacy against hematological cancers, but their effectiveness in solid tumors has been limited by inhibitory receptors expressed by the tumor or its microenvironment. One such inhibitory receptor is FasL, which binds to the Fas/CD95 receptor on the surface of an activated T cell and triggers the T cell to die by apoptosis. We have identified a Fas-CD40 chimeric protein that is able to not only rescue FasL-mediated T-cell apoptosis, but also elicit superior proliferation and anti-tumor cytotoxicity in the presence of FasL. Our data support the potential of this Fas-CD40 chimera to render T cell therapies resistant to FasL-mediated cell death and improve their effectiveness against solid tumors.

3. **Title: Development of a minocycline mediated protein-protein displacement platform using an anti-minocycline single domain antibody and a dedicated displaceable peptide**
   Authors: Jha R., Kinna A., Ferrari M., Bughda R., Ilca T., Cordorba S., Onuoha S., Thomas S., Pule M.
   Poster Board Number: M-192
   Session Date/Time: Monday May 16, 2022 5:30 PM - 6:30 PM
   Abstract number: 311
   Summary: CAR T therapies carry the inherent risks of toxicities mediated by the rapid activation of the CAR T cells in the presence of high levels of tumor. The ability to selectively control and tune down CAR T cells activation is highly desirable in order to control potential toxicity whilst maintaining anti-tumor activity. We have developed a novel, minimally immunogenic, small-molecule control system, controllable with the well-tolerated, and widely available antibiotic minocycline. Control systems such as this permit increased safety and control of engineered cell therapies: it makes the therapy tunable, dose dependent and reversible, and thus has applicability in a range of cell therapy approaches.

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About Autolus Therapeutics plc
Autolus is a clinical-stage biopharmaceutical company developing next-generation, programmed T cell therapies for the treatment of cancer. Using a broad suite of proprietary and modular T cell programming technologies, the Company is engineering precisely targeted, controlled and highly active T cell therapies that are designed to better recognize cancer cells, break down their defense mechanisms and eliminate these cells. Autolus has a pipeline of product candidates in development for the treatment of hematological malignancies and solid tumors. For more information, please visit www.autolus.com.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts, and in some cases can be identified by terms such as "may," "will," "could," "expects," "plans," "anticipates," and "believes." These statements include, but are not limited to, statements regarding Autolus' development of the obe-cel program; the future clinical development, efficacy, safety and therapeutic potential of its product candidates, including progress, expectations as to the reporting of data, conduct and timing and potential future clinical activity and milestones; expectations regarding the initiation, design and reporting of data from clinical trials; expectations regarding regulatory approval process for any product candidates; and the Company's anticipated cash runway. Any forward-looking statements are based on management's current views and assumptions and involve risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in such statements. These risks and uncertainties include, but are not limited to, the risks that Autolus' preclinical or clinical programs do not advance or result in approved products on a timely or cost effective basis or at all; the results of early clinical trials are not always being predictive of future results; the cost, timing and results of clinical trials; that many product candidates do not become approved drugs on a timely or cost effective basis or at all; the ability to enroll patients in clinical trials; possible safety and efficacy concerns; and the impact of the ongoing COVID-19 pandemic on Autolus' business. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Autolus' actual results to differ from those contained in the forward-looking statements, see the section titled "Risk Factors" in Autolus' Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 10, 2022, as well as discussions of potential risks, uncertainties, and other important factors in Autolus' subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and Autolus undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise, except as required by law.